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KENNETH R. GLASER
GARDERE WYNNE SEWELL LLP
1601 ELM STREET
SUITE 3000
DALLAS, TX 75201-4761

EXAMINER

CARDONE, JASON D

ART UNIT

PAPER NUMBER

2142

DATE MAILED: 06/23/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/328,921

Applicant(s)

BARBER ET AL.

Examiner

Jason D Cardone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☒ Other: *See Attached Office Action*.

DETAILED ACTION

1. This action is responsive to the amendment of the applicant (Paper No. 12) filed on 1/27/03. Claims 1-45 are presented for further examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatakeyama, U.S. Patent No. 5,739,760, in view of Yuasa et al. "Yuasa", U.S. Patent No. 6,085,238.

5. Regarding claims 1 and 21, Hatakeyama discloses a control area network comprising: a master controller [ie. master system (1), Hatakeyama, col. 3, lines 25-31 and figure 1];

a first device and a second device coupled to the master controller, the first device having a first state representing a plurality of data values associated with the first device and the second device having a second state representing a plurality of data values associated with the second device [ie. individual control points (4), Hatakeyama, col. 3, lines 21-25, col. 6, lines 30-63, and figure 1]; and

Hatakeyama discloses a slave device (2a) associated with a set of the individual control points, the slave device having a slave device state representing a plurality of data values (8a) associated with the slave device, the slave device linking the slave device state and the respective states associated with the group of individual control points called a representative control point [Hatakeyama, col. 3, lines 21-25, col. 4, lines 39-55, and col. 5, line 55 – col. 6, line 9 and figure 1]. Hatakeyama's preferred embodiment of the control system teaches the slave devices associates with the representative control points (the set) of the individual control points. Even without an objective teaching, one of ordinary skill in the control systems art, at the time of the invention, would recognize the inefficiency of always changing control point statuses from the master (as appears in the case of Hatakeyama). Dynamically and locally changing the control point statuses, in the master/slave system, is desirable or advantageous to further the operation of the system. Yuasa, in the same field of endeavor, discloses an objective teaching of a virtual network (VLAN), which forms

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virtual groups, so that a virtual device having a virtual device state representing a plurality of data values associated with the virtual device and the virtual device linking the virtual device state and the respective states associated with the set [Yuasa, col. 6, line 58 - col. 10, line 67, col. 17, line 32 - col. 20 line 65, and col. 32, line 15 – col. 34, line 62] for automation of control systems [Yuasa, col. 13, lines 18-60], similar to the control system disclosed by Hatakeyama [Hatakeyama, col. 1, line 19-31]. It would have been obvious to one having the ordinary skill in the art, at the time the invention was made, to incorporate the virtual device, taught by Yuasa, into the master/slave system, taught by Hatakeyama, in order to have flexibility with the system (ie. move, change, add devices to the system) [Yuasa, col. 1, lines 6-13].

6. Regarding claim 2, Hatakeyama-Yuasa further discloses the first and second devices are each a port and the virtual device is a virtual port [Hatakeyama, col. 3, lines 19-40] [Yuasa, col. 5, lines 3-30 and col. 17, lines 32-48].

7. Regarding claim 3, Hatakeyama-Yuasa further discloses the first and second devices are each levels and the virtual device is a virtual level [Hatakeyama, col. 6, lines 34-63] [Yuasa, col. 13, lines 29-60 and col. 35, lines 31-64].

8. Regarding claim 4, Hatakeyama-Yuasa further discloses the first and second devices are each channels and the virtual device is a virtual channel [Hatakeyama, col. 3, lines 19-40] [Yuasa, col. 17, lines 32-48 and col. 35, lines 31-64].

9. Regarding claims 5, 6, 22, and 23, Hatakeyama-Yuasa further discloses a device manager associated with the master controller, the device manager is operable to utilize the virtual device to maintain the virtual device state and the first and second states in a substantially similar condition [Hatakeyama, col. 5, lines 31-62] [Yuasa, col. 20, line 12 - col. 21, line 51 and col. 34, line 24 - col. 35, line 64].

10. Regarding claims 7 and 24, Hatakeyama-Yuasa further discloses a data state change request being received by the virtual device, a first generated data state change request being generated by the device manager based on the data state change request and sent to the first device, and a second generated data state change request being generated by the device manager based on the data state change request and sent to the second device [Hatakeyama, col.11, lines 10-40 and col. 14, lines 27-41] [Yuasa, col. 7, line 4 - col. 8, line 24 and col. 10, lines 1-33].

11. Regarding claims 8 and 25, Hatakeyama-Yuasa further discloses the data state change request is a command sent by the master controller in the control area network [Hatakeyama, col.11, lines 10-40, col. 14, lines 27-41, and col. 15, lines 34-55] [Yuasa, col. 32, line 15 – col. 34, line 62].

12. Regarding claims 9 and 26, Hatakeyama-Yuasa further discloses the virtual device state is updated in response to the data state change request, the first state is updated in response to the first generated data state change request and the second state is updated in response to the second data state change request [Hatakeyama, col. 16, lines 17-54] [Yuasa, col. 10, lines 1-33].

13. Regarding claims 10 and 27, Hatakeyama-Yuasa further discloses the first and second generated data state changes request are generated by replicating the data state change request received by the virtual device such that the first and second generated data state change requests are substantially similar to the data state change request [Hatakeyama, col. 12, line 44 - col. 13, line 16 and col. 17, lines 16-52] [Yuasa, col. 34, line 24 - col. 35, line 64].

14. Regarding claim 11, Hatakeyama-Yuasa further discloses the first and second devices are each operable to respond to input by changing the respective first and second states, wherein the change in the first state effects substantially similar changes in the virtual device state, and wherein the change in the second state effects substantially similar changes in the virtual device state [Hatakeyama, col.11, lines 10-40 and col. 14, lines 27-41] [Yuasa, col. 7, line 4 - col. 8, line 24 and col. 10, lines 1-33].

15. Regarding claims 12 and 32, Hatakeyama-Yuasa further discloses the input is an external input from an associated external device [Hatakeyama, col. 9, line 66 – col. 10, line 13] [Yuasa, col. 47, line 38 – col. 48, line 45].

16. Regarding claims 13 and 33, Hatakeyama-Yuasa further discloses the input is an external input from a user [Hatakeyama, col. 11, lines 20-26] [Yuasa, col. 47, line 38 – col. 48, line 10].

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17. Regarding claims 14 and 28, Hatakeyama-Yuasa further discloses level input, wherein each of the virtual device state and the first and second states include a level data portion therein, wherein the first and second devices are each operable to respond to the input by changing the level data portion of the respective first and second states, wherein the change in the level data portion of the first state is replicated in the level data portion of the virtual device state by the device manager and the change in the level data portion of the first state is replicated in the level data portion of the second device state by the device manager, and wherein the change in the level data portion of the second state is replicated in the level data portion of the virtual device state by the device manager and the change in the level data portion of the second state is replicated in the level data portion of the first device state by the device manager such that each of the level data portions of the virtual device state, the first device state and the second device state are maintained in a substantially similar condition [Hatakeyama, col. 11, lines 36-48 and col. 12, line 44 - col. 13, line 16] [Yuasa, col. 21, lines 9-33 and col. 34, line 23 - col. 35, line 64].

18. Regarding claims 15 and 29, Hatakeyama-Yuasa further discloses channel change input, wherein each of the virtual device state and the first and second states include a channel data portion therein, wherein the first and second devices are each operable to respond to the channel change input by changing the channel data portion of the respective first and second states, wherein the change in the channel data portion of the first state is replicated in the channel data portion of the virtual device state by the

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device manager, and wherein the change in the channel data portion of the second state is replicated in the channel data portion of the virtual device state by the device manager [Hatakeyama, col. 12, lines 8-13, col. 13, lines 9-16, and col. 14, lines 13-25] [Yuasa, col. 17, lines 43-48, col. 29, lines 50-64 and col. 34, line 23 - col. 35, line 64].

19. Regarding claims 16 and 30, Hatakeyama-Yuasa further discloses string change input, wherein each of the virtual device state and the first and second states include a string data portion therein, wherein the first and second devices are each operable to respond to the string change input by changing the string data portion of the respective first and second states, wherein the change in the string data portion of the first state is replicated in the string data portion of the virtual device state by the device manager, and wherein the change in the string data portion of the second state is replicated in the string data portion of the virtual device state by the device manager [Hatakeyama, col. 12, lines 8-13, col. 13, lines 9-16, and col. 14, lines 13-25] [Yuasa, col. 21, lines 9-33 and col. 34, line 23 - col. 35, line 63].

20. Regarding claims 17 and 31, Hatakeyama-Yuasa further discloses command change input, wherein each of the virtual device state and the first and second states include a command data portion therein, wherein the first and second devices are each operable to respond to the command change input by changing the command data portion of the respective first and second states, wherein the change in the command data portion of the first state is replicated in the command data portion of the virtual

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device state by the device manager, and wherein the change in the command data portion of the second state is replicated in the command data portion of the virtual device state by the device manager [Hatakeyama, col.11, lines 10-40 and col. 13, line 54 - col. 14, line 2] [Yuasa, col. 21, lines 9-33 and col. 34, line 23 - col. 35, line 63]..

21. Regarding claims 18 and 34, Hatakeyama-Yuasa further discloses the linking between the virtual device and the first and second devices may be created at run-time [Hatakeyama, col. 6, lines 18-45 and col. 7, line 66 – col. 8, line 25] [Yuasa, col. 6, lines 25-47, col. 49, line 23 – col. 54, line 48 and col. 52, lines 27-40].

22. Regarding claims 19 and 35, Hatakeyama-Yuasa further discloses the linking between the virtual device and the first and second devices may be modified at run-time [Hatakeyama, col. 6, lines 18-45 and col. 7, line 66 – col. 8, line 25] [Yuasa, col. 49, line 23 – col. 54, line 48 and col. 52, lines 27-40].

23. Regarding claims 20 and 36, Hatakeyama-Yuasa further discloses the linking between the virtual device and the first and second devices may be defined only at compile time and may only be changed by resetting the master controller [Hatakeyama, col. 6, lines 10-45, col. 9, lines 32-44 col. 13, line 17 - col. 14, line 37] [Yuasa, col. 29, lines 50-64].

24. Regarding claim 37, Hatakeyama discloses a master controller in a control area network comprising: a plurality of devices, each the device having a respective state

representing a plurality of data values associated with the respective devices [ie. individual control points, Hatakeyama, col. 3, lines 21-25 and col. 6, lines 30-63];

Hatakeyama discloses a slave device (2a) associated with a set of the individual control points, the slave device having a slave device state representing a plurality of data values (8a) associated with the slave device, the slave device linking the slave device state and the respective states associated with the group of individual control points called a representative control point [Hatakeyama, col. 3, lines 21-25, col. 4, lines 39-55, and col. 5, line 55 – col. 6, line 9 and figure 1]. Hatakeyama's preferred embodiment of the control system teaches the slave devices associates with the representative control points (the set) of the individual control points. Even without an objective teaching, one of ordinary skill in the control systems art, at the time of the invention, would recognize the inefficiency of always changing control point statuses from the master (as appears in the case of Hatakeyama). Dynamically and locally changing the control point statuses, in the master/slave system, is desirable or advantageous to further the operation of the system. Yuasa, in the same field of endeavor, discloses an objective teaching of a virtual network (VLAN), which forms virtual groups, so that a virtual device having a virtual device state representing a plurality of data values associated with the virtual device and the virtual device linking the virtual device state and the respective states associated with the set [Yuasa, col. 6, line 58 - col. 10, line 67, col. 17, line 32 - col. 20 line 65, and col. 32, line 15 – col. 34, line 62] for automation of control systems [Yuasa, col. 13, lines 18-60], similar to the control system disclosed by Hatakeyama [Hatakeyama, col. 1, line 19-31]. It would

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have been obvious to one having the ordinary skill in the art, at the time the invention was made, to incorporate the virtual device, taught by Yuasa, into the master/slave system, taught by Hatakeyama, in order to have flexibility with the system (ie. move, change, add devices to the system) [Yuasa, col. 1, lines 6-13].

25. Regarding claim 38, Hatakeyama-Yuasa further discloses receiving a data state change request at the virtual device, wherein the data state change request effects a change in the data state of the virtual device; and replicating the data state change request for each of the devices associated with the virtual device [Hatakeyama, col. 12, line 44 - col. 13, line 16 and col. 17, lines 16-52] [Yuasa, col. 34, line 24 - col. 35, line 64].

26. Regarding claim 39, Hatakeyama-Yuasa further discloses replicating the command for each of the devices associated with the virtual device further includes changing the data state of the virtual device in response to the data state change request, and wherein maintaining each respective data state in a substantially similar condition further includes changing the data state of each of the devices associated with the virtual device in response to the replicated data state change request [Hatakeyama, col.11, lines 10-40 and col. 14, lines 27-41] [Yuasa, col. 7, line 4 - col. 8, line 24 and col. 10, lines 1-33].

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27. Regarding claim 40, Hatakeyama-Yuasa further discloses the data state change request is a command sent by the master controller in the control area network [Hatakeyama, col.11, lines 10-40, col. 14, lines 27-41, and col. 15, lines 34-55] [Yuasa, col. 32, line 15 – col. 34, line 62].

28. Regarding claim 41, Hatakeyama-Yuasa further discloses maintaining each respective data state in a substantially similar condition includes: receiving a data state change request at a one of the devices associated with the virtual device; and sending the data state change request to the virtual device [Hatakeyama, col.11, lines 10-40 and col. 14, lines 27-41] [Yuasa, col. 7, line 4 - col. 8, line 24 and col. 10, lines 1-33].

29. Regarding claim 42, Hatakeyama-Yuasa further discloses receiving a data state change request at a one of the devices associated with the virtual device includes changing the data state of the one of the devices in response to the data state change request [Hatakeyama, col.11, lines 10-40 and col. 14, lines 27-41] [Yuasa, col. 7, line 4 - col. 8, line 24 and col. 10, lines 1-33].

30. Regarding claim 43, Hatakeyama-Yuasa further discloses the data state change request is a command sent by a master controller in the control area network [Hatakeyama, col.11, lines 10-40, col. 14, lines 27-41, and col. 15, lines 34-55] [Yuasa, col. 32, line 15 – col. 34, line 62].

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31. Regarding claim 44, Hatakeyama-Yuasa further discloses each respective data state in a substantially similar condition includes: receiving a level state change request at a one of the devices associated with the virtual device; sending the level state change request to the virtual device; changing a level data state portion of the data state of the virtual device in response to the level state change request; replicating the level state change request for each of the devices associated with the virtual device; and changing a level data portion of the data state of each of the devices associated with the virtual device in response to the replicated data state change request [Hatakeyama, col. 11, lines 36-48 and col. 12, line 44 - col. 13, line 16] [Yuasa, col. 21, lines 9-33 and col. 34, line 23 - col. 35, line 64].

32. Regarding claim 45, Hatakeyama-Yuasa further discloses the data state change request is a command sent by a master controller in the control area network [Hatakeyama, col. 11, lines 10-40, col. 14, lines 27-41, and col. 15, lines 34-55] [Yuasa, col. 32, line 15 – col. 34, line 62].

Response to Arguments

33. Applicant's arguments towards the rejection under 35 U.S.C. 102(b) as being unpatentable over Dolan, filed 1/27/03, have been fully considered but they are moot, since the rejection has been withdrawn.

34. Applicant's arguments towards the rejection under 35 U.S.C. 103(a) as being unpatentable over Hatakeyama in view of Yuasa, filed 1/27/03, have been fully considered but they are not persuasive.

(A) Applicants object to the nonspecific rejection of claims 1-20 and 37-45 in respect to the rejection of Hatakeyama in view of Yuasa.

As to point (A), examiner has written out the rejection of claims 1-20 and 37-45 (see above).

(B) There is no citation to anything "concrete" in the record to support either the suggestion to combine Hatakeyama and Yuasa or the motivation to do so.

As to point (B), Hatakeyama discloses a slave device (2a) associated with a set of the individual control points, the slave device having a slave device state representing a plurality of data values (8a) associated with the slave device, the slave device linking the slave device state and the respective states associated with the group of individual control points called a representative control point [Hatakeyama, col. 3, lines 21-25, col. 4, lines 39-55, and col. 5, line 55 – col. 6, line 9 and figure 1].

Hatakeyama's preferred embodiment of the control system teaches the slave devices associates with the representative control points (the set) of the individual control points. Even without an objective teaching, one of ordinary skill in the control systems art, at the time of the invention, would recognize the inefficiency of always changing control point statuses from the master (as appears in the case of Hatakeyama). Dynamically and locally changing the control point statuses, in the master/slave system, is desirable

or advantageous to further the operation of the system. Yuasa, in the same field of endeavor, discloses an objective teaching of a virtual network (VLAN), which forms virtual groups, so that a virtual device having a virtual device state representing a plurality of data values associated with the virtual device and the virtual device linking the virtual device state and the respective states associated with the set [Yuasa, col. 6, line 58 - col. 10, line 67, col. 17, line 32 - col. 20 line 65, and col. 32, line 15 – col. 34, line 62] for automation of control systems [Yuasa, col. 13, lines 18-60], similar to the control system disclosed by Hatakeyama [Hatakeyama, col. 1, line 19-31]. It would have been obvious to one having the ordinary skill in the art, at the time the invention was made, to incorporate the virtual device, taught by Yuasa, into the master/slave system, taught by Hatakeyama, in order to have flexibility with the system (ie. move, change, add devices to the system) as shown in Yuasa [Yuasa, col. 1, lines 6-13]. The combination of Hatakeyama and Yuasa is the control systems within each invention. The invention of Hatakeyama is a control system and the invention of Yuasa modifies a control system to become autonomous. The cited specific portion of Yuasa supports the motivation (flexibility) found by the examiner. Therefore, the arguments of the applicants are not persuasive.

Conclusion

35. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the

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event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason D Cardone whose telephone number is (703) 305-8484. The examiner can normally be reached on Mon.-Thur. (9AM-6PM). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Powell can be reached on (703) 305-9703. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238 (After Final Communications)

(703) 746-7239 (Official Communications)

(703) 746-7240 (For Status inquiries, Draft Communications).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


Jason D Cardone
Examiner
Art Unit 2142

June 20, 2003